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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,573	07/01/2004	Hiroshi Aruga	032404-080	4787
21839	7590	11/03/2005		EXAMINER
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				TRAN, TAN N
			ART UNIT	PAPER NUMBER
				2826

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/500,573	ARUGA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tan N. Tran	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on amendment filed on 09/20/05.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,2,4-6,11 and 12 is/are rejected.
- 7) Claim(s) 3 and 7-10 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Minhloan Tran*

**Minhloan Tran**  
**Primary Examiner**  
**Art Unit 2826**

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

**DETAILED ACTION**

**Specification**

1. The amended title of the invention is still not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12 stand rejected under 35 U.S.C. 102(b) as being anticipated by Oikawa (6,074,102).

Oikawa discloses an optical semiconductor package that contains an optical semiconductor element 24 and an integrated circuit 26 which transmits and receives differential signals to and from the optical semiconductor element 24, the optical semiconductor package comprising: a dielectric (GP) sealed into and fixed to a wall surface of the package, and having a pair of pin insertion holes 30E; and a pair of signal pins (28,32) that penetrate through and fit into the pair of pin insertion holes 30E, and constituting differential lines, wherein differential

signals are transmitted and received to and from the integrated circuit through the pair of signal pins (28,32). (Note attachment #2, fig. 3 of Oikawa).

### **Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,4-6,11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa (6,074,102).

With regard to claims 1,2, Oikawa discloses an optical semiconductor package for packaging therein an optical semiconductor element comprising a stem 30 with a hole ((30C and 30D) or (H)); a glass dielectric material (GP) sealed into the hole ((30C and 30D) or (H)) of the stem 30, and with a pair of pin insertion holes 30E; and a pair of signal pins (28,32) that penetrate through and fit into the pair of pin insertion holes 30E of the glass dielectric material (GP), and that constitute differential lines electrically connected to the optical semiconductor element 24. (Note attachment #2, fig. 3 of Oikawa).

Oikawa discloses all the claimed subject matter except for a pair of signal pins (28,32) to be a pair of high frequency signal pins. However, it would have been obvious to one of ordinary skill in the art to form a pair of signal pins to be a pair of high frequency signal pins in order to increase a high-speed operation of the optical device. Note, lines 1-4, paragraph 0137, page 7, fig. 1A of Nagase et al. (2002/0172476), is cited to support for the well known position.

With regard to claims 4,5, Oikawa discloses all claimed invention as in claim 1, except the dielectric is transparent or semitransparent and the hole in the stem has one of an oval, elliptic or cocoon shape. However, although Oikawa does not teach exact the material of the dielectric and shape of the hole as that claimed by Applicant, the material and shape differences are considered obvious design choices and are not patentable unless unobvious or expected results are obtained from these changes. It appears that these changes produce no functional differences and therefore would have been obvious. Note in re Leshin, 125 USPQ 416.

With regard to claim 6, Oikawa discloses a ground member 34 in parallel to the pair of the signal pins (28,32) is provided on the stem 30. (Note attachment #1, fig. 3 of Oikawa).

With regard to claim 11, Oikawa discloses a cap 40 that includes a light passing hole 40A and that airtight closes an internal space including the optical semiconductor element 24 by fixing an end portion to the stem 30. (Note attachment #1, fig. 3 of Oikawa).

#### **Allowable Subject Matter**

4. Claims 3,7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3,7-10 are allowable over the prior art of record, because none of these references disclose or can be combined to yield the claimed invention such as a first member arranged on an outside of the dielectric wherein a coefficient of thermal expansion of the dielectric; and a second member arranged on an outside of the first member wherein a thermal conduction of the

second member is higher than that of the first member as recited in claim 3, the pair of high frequency signal pins between the pair of ground pins as recited in claim 7, a differential line substrate having a one end side connected to the pair of high frequency signal pins and an other end side connected to the pair of electrodes of the optical semiconductor element; a pair of inductance elements having one end sides connected to the pair of electrodes of the optical semiconductor element, respectively, and having other end sides connected to an external bias current source as recited in claim 8.

### **Response to Arguments**

5. Applicant's arguments filed 09/20/05 have been fully considered but they are not persuasive.

It is argued, at page 10 of the remarks, that "Nothing in Oikawa shows, teaches or suggests a pair of pin insertion holes formed in a dielectric, a pair of signal pins penetrating through and fitting the pair of pin insertion holes and the pair of signal pins constitute differential lines". However, attachment #2, fig.3 of Oikawa does show the optical semiconductor package having a pair of pin insertion holes 30E formed in a dielectric (GP), a pair of signal pins (28,32) penetrating through and fitting the pair of pin insertion holes 30E and the pair of signal pins (28,32) constitute differential lines.

It is argued, at page 11 of the remark, that "Nothing in Oikawa shows, teaches or suggests a (one) hole having a dielectric therein with a pair of pin insertion holes and a pair high frequency signals constitute differential lines". However, attachment #2, fig.3 of Oikawa does

show the optical semiconductor package having a hole ((30C and 30D) or (H)) having a dielectric (GP) therein with a pair of pin insertion holes 30E and the pair of signal pins (28,32) constitute differential lines. Oikawa discloses all the claimed subject matter except for a pair of signal pins (28,32) to be a pair of high frequency signal pins. However, it would have been obvious to one of ordinary skill in the art to form a pair of signal pins to be a pair of high frequency signal pins in order to increase a high-speed operation of the optical device. Note, lines 1-4, paragraph 0137, page 7, fig. 1A of Nagase et al. (2002/0172476), is cited to support for the well know position. Thus, applicant's claims 1,2,4-6,11,12 do not distinguish over Oikawa reference.

### **Conclusion**

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tan Tran whose telephone number is (571) 272-1923. The examiner can normally be reached on M-F 8:30AM-5PM.

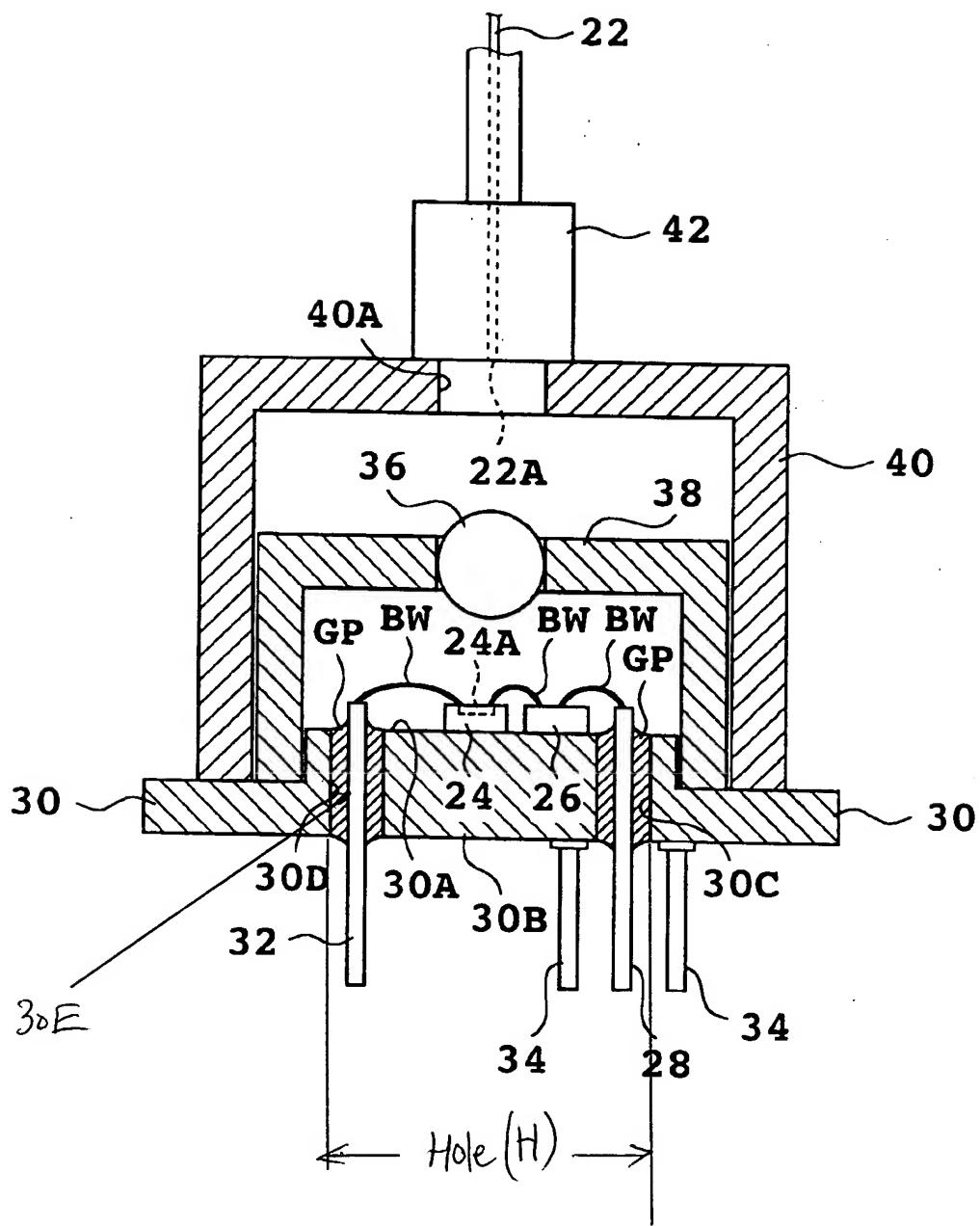
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TT

Oct 2005

## F I G. 3



Attachment of 2